

ABSTRACT OF THE DISCLOSURE

[0055] A system and method for accurately determining time of arrival using a mathematical model that mimics a correlation function. A correlation value is sampled at a predetermined periodic interval and a maximum correlation value, coinciding with a particular point in time, is determined. The mathematical model uses the maximum measured correlation value and correlation values at adjacent sample points to determine coefficients for the selected mathematical model. The coefficients may be calculated and used to determine the actual peak, which may fall in-between the sample points. The actual peak value is used to accurately determine the time of arrival of a signal. Time of arrival signals from a plurality of remote transmitters are used along with conventional triangulation techniques to accurately determine the location of the wireless unit.

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